# MSHA HANDBOOK SERIES

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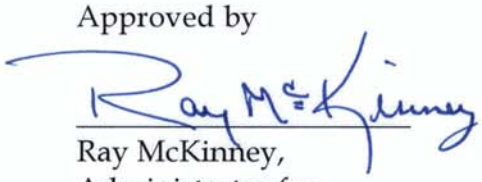
# GENERAL COAL MINE INSPECTION PROCEDURES

# PREFACE

This handbook sets forth general procedures to follow when conducting inspections of coal mines. Previously issued procedural and administrative instructions for this subject material are superseded by this handbook. Compliance instructions that are contained in the MSHA Program Policy Manual are not superseded by this handbook.

The description of responsibilities that follows set forth the steps that a mine inspector takes when conducting mine inspections. When the text describes an action which the inspector "shall" do or specifies steps which the inspector "shall" perform in some sequence, then the inspector is to do so consistent with the specific conditions at a mine and any determination not to conduct such action is to be based on his or her sound discretion and that of the inspector's supervisors. When the action is one which "should" be followed, then the inspector who does them is engaging in the best practices for such inspection and should do them consistent with the specific conditions at a mine.

Approved by



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# TABLE OF CONTENTS

## I. INTRODUCTION

The objective of MSHA mine inspection and investigation activities is to ensure that a safe and healthful working environment is provided for miners. MSHA personnel work to achieve this objective in three ways: (1) by enforcing the Federal Mine Safety and Health Act of 1977 (Act); (2) conducting education and training activities; and (3) providing technical assistance to the mining community.

**A. Purpose.** This handbook sets forth procedures for MSHA personnel to follow when conducting inspections and investigations of underground and surface coal mines and facilities. The instructions in this handbook are primarily procedural and administrative. This handbook supersedes previously issued procedural and administrative instructions on this subject.

**B. Authority.** Section 103(a) of the Act provides authorized representatives (ARs) of the Secretary of Labor with the authority to conduct inspections and investigations of coal and other mines. Additionally, Section 103(a) provides ARs with the right of entry to, upon, and through any coal or other mine. Only persons who have been authorized by the Secretary and have had proper credentials issued to them shall conduct inspections and investigations under the Act. When requested, ARs shall present their credentials to interested parties before conducting an inspection or investigation.

**C. Responsibility.** The Administrator for Coal Mine Safety and Health (CMS&H) has the primary responsibility for enforcing the Act and implementing the regulations as they relate to coal mines. This responsibility ultimately rests with the ARs (inspectors and their supervisors). The ARs are responsible for conducting thorough inspections and investigations. Inspectors must discuss safety and health practices with mine operators and the miners during every inspection. Stakeholder participation is essential to achieving effective safety and health program at each mine.

**D. Health and Safety Rules.** A thorough knowledge of Title 30, Code of Federal Regulations, and the Act is required. MSHA employees shall comply with state and company rules and regulations except when they conflict with Federal standards or interfere with the performance of their duties.

## II. GENERAL PROCEDURES

This section covers the general procedures that must be addressed by ARs during any inspection or investigation. Depending on the type of inspection or investigation, procedures listed in other handbooks may also apply.

**A. Uniform Mine File Review**. Inspectors shall review the Uniform Mine File (UMF) just prior to conducting an inspection or investigation. The type of event and the area to be inspected will dictate the extent of the review, in accordance with the Uniform Mine File Procedures Handbook.

**B. Arrival Time.** Inspectors and specialists should arrive at the mine in time for pre-inspection contacts, a preliminary review of the record books, and an overview of the mine map to determine which area of the mine to begin the inspection or investigation. MSHA personnel should proceed to the area selected for inspection as quickly as possible after arriving at the mine site.

**C. Examination Records.** Before physically inspecting an area of a mine, the inspector shall examine, where practical, all of the operator's most recent examination records pertinent to the planned inspection activity for that day. More than one record will often apply to an area, such as preshift, on-shift, daily, and weekly examinations. When a record of examination lists a condition that may identify a serious hazard, the inspector should thoroughly document the hazards in the narrative portion of the inspection notes and proceed to this area immediately. If additional areas are inspected (other than those planned at the start of the shift), pertinent examination records shall also be examined prior to leaving the mine property. In all cases, mine records pertinent to the issuance of a citation, order, or safeguard shall be reviewed prior to placing the enforcement action in writing.

**D. Inspecting Working Places for Imminent Dangers.** When inspecting a working section, inspectors shall check all working places for imminent dangers as soon as practical after arrival on the section and before examining equipment or observing any cycle of operation; except when travel to the section is entirely incidental to inspecting outby areas or when the inspector has reason to believe that a problem or condition elsewhere needs immediate attention.

**E. Conference Procedures.** Inspectors should prepare carefully for conferences as they will provide an opportunity to discuss safety and health issues and reinforce effective programs at the mine.

1. Pre-inspection Conference. On the first day of the inspection, the inspector will notify the representatives of the operator and miners of the

type of inspection to be conducted and schedule a time for a pre-inspection conference (see Regular Safety and Health Inspection Procedures section of this handbook for additional guidance specific to such inspections). On subsequent days of the inspection, the inspector will notify the representatives of the operator and miners of the continuing inspection and afford them the opportunity to exercise their rights under 103(f) of the Mine Act.

2. Safety and Health Conferences. Upon issuing any enforcement action, the inspector shall advise the operator and miners representative of procedures for requesting a safety and health conference under 30 CFR 100.6(b) at the time that the written copy of the enforcement action is served. The purpose of the safety and health conference is to submit any additional information relating to actions taken by the inspector.

3. Daily or Interim Conferences. A brief conference should be held at the end of each inspection day to provide an overview of the inspection activities and to provide an opportunity for the operator and miners' representatives to express any concerns. This conference may also be conducted when serving written copies of enforcement actions. When daily conferences are not possible, regularly scheduled interim conferences shall be conducted.

4. Post-Inspection Conferences. The inspector shall schedule and conduct a post-inspection conference with the mine operator and miners' representative (where applicable). The conference shall include a summary of all enforcement actions taken, including the root causes of, and any observations concerning, conditions or practices. Accidents at the mine and any samples or surveys taken during the inspection will be discussed. A means to prevent recurrence of violations, hazards, and accidents should be formulated by the mine operator and fully discussed by all parties. The inspector's immediate supervisor should be made aware of the post-inspection conference date and briefed immediately regarding concerns voiced during any portion of an inspection or investigation.

**F. Danger Boards/Hazardous Areas.** Inspectors, and any miners' representatives while accompanying an inspector, have the right of entry into "posted" or "dangered-off" areas in the performance of their duties, but should do so with caution. Inspectors should not travel anywhere in a mine where the oxygen content is below the acceptable air quality standards. In case of an emergency, inspectors should protect themselves with use of a self-contained self-rescuer.

**G.** **Supervisory Coal Mine Inspectors Accompanying an Inspector.** When a supervisor accompanies an inspector, investigator, or specialist, the supervisor's name shall not be cited as one of the inspection officials or authors of the resulting report.

**H.** **Inspectors-in-Training.** When an inspector-in-training accompanies an AR to learn proper inspection procedures, include only the name of the AR in the report.

**I.** **Inspection Equipment and Supplies.** Each inspector should have equipment and supplies sufficient to safely complete the projected type of inspection or investigation. Personal Protective Equipment (PPE) applicable to mine conditions and MSHA directives shall be worn. Inspectors should immediately notify their supervisor if equipment deemed essential for planned inspection activity (including that necessary to address anticipated health/safety exposures) is not available at their office location.

**J.** **MSHA Personnel – Former Mine Employee.** At least two years must elapse from the last date of employment at a mine until MSHA personnel may conduct assignments at such mine.

**K.** **Mine Labor/Management Relations**. MSHA employees shall remain impartial toward both labor and management. MSHA employees shall refrain from offering opinions on labor management relations matters which are not covered under the Act, regulations, or standards. When a picket line is present at a mine site, inspectors should discuss the purpose of their presence on mine property with the individuals on the picket line. If access to mine property is denied, inspectors shall give consideration to whether the mine is in production or just being maintained and the type of inspection activity to be performed in determining whether crossing the picket line is appropriate. Under no circumstances should inspectors put anyone, including themselves, in danger while crossing a picket line. Inspectors should contact their supervisor when necessary in making this determination. The supervisor may consider contacting the labor representatives to attempt to resolve the problem, accompanying the inspector, or sending an additional inspector if the situation warrants.

## III. REGULAR SAFETY AND HEALTH INSPECTION PROCEDURES

A Regular Safety and Health Inspection is one in which a mine is inspected in its entirety to meet the requirements of Section 103(a)(3) and (4) of the Act. This inspection is to determine if an imminent danger exists and if there is compliance with mandatory health and safety standards, with any citation, order, or decision issued, and with other requirements of the Act.

Care must be used when conducting other types of inspections and utilizing those activities towards the completion of a Regular Safety and Health Inspection. No portion of a 103(i) inspection; including inspection notes, reports, bottle samples, etc. may be utilized to complete any other type of inspection, including a Regular Safety and Health Inspection.

When conducting inspections while riding on mobile equipment, the mode of transportation must allow a complete inspection of the areas from a safe position. When extremely low coal seams are inspected, it may not be possible to either completely or safely conduct an inspection from mobile equipment. For instance, conveyor belts must be inspected from within the entry where the belt is located and the entire conveyor length traveled.

Problems encountered during inspection activities that could affect the health or safety of miners should be immediately communicated to the inspector's immediate supervisor. It is especially important that this information is shared when other inspectors travel to the mine or mine assignments change.

### A. General

1. First Day Arrival In Advance Of Starting Time - The inspector should arrive at the mine on the first day of the inspection in advance of starting time. Sufficient time should be allowed for pre-inspection contacts, a preliminary review of record books and an overview of the mine map to determine which area of the mine to begin the inspection. A physical inspection of the mine shall begin immediately after the pre-inspection contacts are made. At surface coal mines, the surface pit and related mining operations should be inspected before any preparation facilities. At underground coal mines, working sections should be inspected before the surface facilities. However, this does not preclude inspecting other areas where the inspector determines a serious problem or condition needs immediate attention. If a physical inspection of the mine cannot begin on the first day of a regular inspection, MSHA supervision or management shall be informed prior to the inspector leaving mine property

2. Mine Map Review (First Day For Hazards) - The inspector, prior to going underground on the first day of the inspection, shall study the mine map for consistency with approved mining methods, mining in proximity to worked-out areas, oil and gas wells, fuel transmission lines, bodies of water that could present an underground flood hazard, mines located adjacent to, above and below active workings, and any danger that surface mining may present to underground miners.

3. Pre-Inspection Conference - The inspector shall schedule and hold a pre-inspection conference with both the mine operator and miners representative (where applicable). The conference shall be conducted on or soon after the first day of inspection and will cover enforcement actions and the accident history at the mine, a comparison to the national accident incident rates, and results of pertinent samples or surveys taken during previous inspections.

4. Check In And Out System - The inspector shall determine if the system being used at the mine complies with 30 CFR 75.1715.

5. Independent Contractors - All independent contractors encountered shall be inspected for compliance with applicable standards, including: observations of work practices, comparing training records with information received from workers, and inspection of equipment.

6. Travel With Mine Examiner - Preshift - The inspector shall accompany at least one mine examiner during a required pre-shift examination to determine if adequate examinations are being conducted.

7. Travel with Mine Examiner - On-shift - The inspector shall accompany at least one mine examiner during a required on-shift examination to determine if adequate examinations are being conducted.

8. Travel With Mine Examiner - Weekly - The inspector shall accompany at least one mine examiner during a required weekly examination to determine if adequate examinations are being conducted.

9. Inspection Shifts - Inspections shall be conducted on all working shifts to the extent necessary to determine the general attitude of supervisors and miners toward health and safety. Inspection of mines or facilities on idle shifts should focus on activities unique to that shift, such as maintenance work. Otherwise, inspections on idle shifts should be limited to places where conditions are similar on working shifts. Such places may include escapeways, travelways, and explosives and material storage areas that would not be significantly different on idle shifts.

10. Hearing Conservation Program - The inspector shall determine operator compliance with the stipulations contained in the current hearing conservation program, including administrative controls such as hearing protection, exposure time limitations, and a discussion with enrolled miners to ascertain their knowledge of the program. Noise surveys shall be conducted in accordance with the Coal Mine Health Inspection Procedures Handbook.

11. Man-trip Operation - The inspector shall evaluate mantrip operating practices for safety by observing at least one mantrip in and out of the mine.

**B. Records**

1. AMS Alarm Activation - The AMS signal device or alarm activation records shall be reviewed back to the ending date of the last regular safety and health inspection to evaluate compliance with 30 CFR 75.351(o).

2. ATRS Certification (Available) - The inspector shall determine if the operator has available a certification, by a registered engineer for each ATRS system at the mine, stating that the ATRS system meets the structural capacity as required by 30 CFR 75.209(e)(1) and 75.209(e)(2).

3. Canopies And Cabs; Self-Propelled Equipment - The inspector shall evaluate compliance with 30 CFR 75.1710-1(e) by determining if the operator has evidence of certification by a registered engineer for each canopy or cab system at the mine, stating that it meets the required structural capacity.

4. Cleanup Program - The inspector shall review the program required by 30 CFR 75.400-2 and determine if it is available in written form.

5. Diesel Training And Qualification List - The inspector shall determine if the operator was maintaining records required by 30 CFR 75.1915(c).

6. Electrical Map - The inspector shall review the map of the electrical system required by 30 CFR 75.508 and interview the person responsible for its maintenance to determine the location of each electrical unit. The map accuracy shall be evaluated by comparing the electrical unit locations recorded on the map to actual locations encountered during the inspection.

7. Emergency Medical Assistance - The inspector shall review and compare the emergency medical assistance agreement, as reported to the District

Manager, with the information posted at the mine, as required by 30 CFR 75.1713-1 and 77.1702.

8. Examinations. - The operator's compliance with recording required examinations (listed below) shall be evaluated by comparing recorded information in the record book with actual conditions in the area inspected. Prior recordings shall be reviewed back to the ending date of the last regular safety and health inspection to determine if the results of all required examinations, including corrective actions, were recorded.

   a. Certifications And Records of Daily Hoist Examinations (30 CFR 75.1400-4 & 77.1404)

   b. Daily And Monthly Examination of Ventilation Fans (30 CFR 75.312)

   c. Daily Inspection of Hoists at Slope and Shaft Sinking Operations (30 CFR 77.1906)

   d. Daily Inspection of Active Areas of Surface Mines (30 CFR 77.1713)

   e. Diesel Exhaust Gas Records –Exceeding TLV® Action Levels (30 CFR 70.1900(d))

   f. Impoundment Examinations (30 CFR 77.216-3)

   g. Fire Doors Examinations and Tests (30 CFR 75.1708)

   h. Fire Hydrants And Fire Hose Tests (30 CFR 75.1103-11)

   i. Fire Suppression Systems for Diesel-Powered Equipment and Fuel Transportation Units (30 CFR 75.1911(j))

   j. Fire Suppression Systems for Permanent Diesel Storage Facilities (30 CFR 75.1912(i))

   k. Hazardous Conditions; Postings, Correcting and Recording (30 CFR 75.363)

   l. High Voltage Longwall Equipment (30 CFR 75.821)

   m. Hoist Rope Examinations and Tests (30 CFR 75.1433 and 77.1433)

   n. Hoist Safety Catches Tests (30 CFR 75.1400-2)

   o. Inspection And Test of Automatic Fire Sensors and Warning Device Systems (30 CFR 75.1103-8)

   p. Maintenance Record Diesel Engine Performance (30 CFR 75.1914(g(5))

   q. Monthly Examination of Surface Electrical Equipment (30 CFR 77.502)

r. Monthly Examination of Surface High Voltage Circuit Breakers (30 CFR 77.800-2)

s. Monthly Examination of Surface LMV Circuit Breakers (30 CFR 77.900-2).

t. Monthly Testing of Underground High Voltage Circuit Breakers (30 CFR 75.800-4)

u. Monthly Testing of Underground Low And Medium Voltage Breakers (30 CFR 75.900-4)

v. Movement of High-Voltage Power Centers and Portable Transformers (30 CFR 75.812)

w. Preshift & On-Shift Examinations (30 CFR 75.360 & 75.362)

x. Roof Bolt Torque Measurements (30 CFR 75.204(f)(5) & (6))

y. Trolley Overcurrent Protection Tests/Examinations (30 CFR 75.1001-1)

z. Weekly Examination for Methane And Hazardous Conditions (30 CFR 75.364)

aa. Weekly Examination and Tests of Diesel Equipment (30 CFR 75.1914(f)(2))

bb. Weekly Inspection of Fire Suppression Devices (30 CFR 75.1107-16)

cc. Weekly Tests of Underground Electrical Equipment (30 CFR 75.512)

9. First-Aid Training Supervisory Employees - The inspector shall review MSHA 5000-23 forms for supervisory personnel at the mine sufficient to determine if training was provided in accordance with 30 CFR 75.1713-3. A representative number of supervisors shall be polled to determine the quality of the training.

10. Hoist Rope Initial Measurement - The inspector shall review the record book and determined if the results of all required measurements were recorded in accordance with 30 CFR 75.1432 and 77.1432.

11. Independent Contractor Register - The inspector shall review the production operator's independent contractor register required by 30 CFR 45.4(b). Any new data or updates to MSHA's Contractor Database shall be noted and submitted on MSHA Form 2000-205.

12. Methane Monitor Calibration Test - The operator's compliance with recording tests required by 30 CFR 75.342(a)(4) shall be evaluated by

reviewing prior records back to the ending date of the last regular safety and health inspection and by polling miners.

13. Mine Emergency Evacuation and Firefighting Program of Instruction - The inspector shall review records of mine evacuation drills required by 30 CFR 75.1502(c)(2) and poll miners to determine if all miners on all shifts have participated at intervals of not more than 90 days. The effectiveness of the program shall be evaluated by polling miners on their familiarity with the program.

14. Mine Map - The inspector shall review the up-to-date mine map required by 30 CFR 75.1200 for consistency with approved mining methods and give special attention concerning ventilation controls, air-flow direction and required temporary notations to determine its accuracy.

15. Noise Program - The inspector shall review the operator's records required by the current Hearing Conservation Program. Noise surveys shall be conducted in accordance with the Coal Mine Health Inspection Procedures Handbook.

16. Part 47 HazCom Records - The inspector shall review the written HazCom program. Inspectors shall cross reference labels on hazardous chemicals with Material Safety Data Sheets and the chemical inventory.

17. Part 48 Training Records (5000-23 Forms) - The inspector shall review MSHA 5000-23 forms sufficient to determine if required training was provided and discuss the contents of the training with a representative number of workers to evaluate the quality of the training.

18. Part 49 Training Records (Mine Rescue Teams) - The inspector shall review MSHA 5000-23 forms to determine if required training was provided and discuss the contents of the training with mine rescue team members to evaluate the quality of the training.

19. Part 50 Records (7000-1 and 7000-2 Forms) - The inspector shall review MSHA 7000-1 forms at the mine and compare the information with that submitted to MSHA. Information obtained from MSHA 7000-1 forms shall be compared to information obtained from miners polled to determine if events were properly reported. The inspector shall review MSHA 7000-2 forms to determine if they were maintained at the mine office nearest to the mine and submitted in a timely manner.

20. 101(c) Modifications Granted For Mine - The inspector shall review 101(c) modifications to determine if circumstances under which they

were granted are still valid, if they are posted on the mine bulletin board per 30 CFR 44.5(b), and if current petitions are posted per 44.9.

21. Record of Certified And Qualified Persons (Surface and Underground) - The inspector shall review and compare the qualification list required by 30 CFR 75.159 and 77.106 with copies of individual training records.

22. Respirable Dust Control Plan (Posted) - The inspector shall review records required by the current respirable dust control plan and analysis reports of the operator's respirable dust samples to determine if they were maintained and posted as required by 30 CFR 71.210(b) and 71.301(d).

23. Respirable Dust Program (Surface) - The inspector shall evaluate the current respirable dust control plan. An onsite evaluation shall be made of surface locations, miners shall be polled, and respirable dust samples shall be collected in accordance with the Coal Mine Health Inspection Procedures Handbook.

24. Respirable Dust Program (Underground) - The inspector shall review records required by the respirable dust control portion of the mine ventilation plan and analysis reports of operator's respirable dust samples to determine if they were maintained and posted as required by 30 CFR 70.210(b).

25. Roof Bolt Manufacturer's Certification - The inspector shall determine if the operator has available a certification, per 30 CFR 75.204(a), stating that the roof bolts used at the mine were manufactured in accordance with the specifications of ASTM F432-95.

26. Roof Control Plan Availability - The inspector shall determine if the current roof control plan is available to the miners and representative of miners at the mine, per 30 CFR 75.220(e).

27. Roof Control Plan Review - The inspector shall review the operator's currently approved roof control plan and evaluate the plan by making on site observation of the effectiveness of controls being installed. This evaluation shall include information obtained from the miners installing the roof support materials and the operator. The results of this evaluation shall be recorded on MSHA Form 2000-204 and submitted with completed inspection report.

28. Self-Rescue Devices - The inspector shall review the records and determine if the results of all required tests were recorded per 30 CFR

75.1714-3(e). If possible, the inspector will determine if the operator followed the manufacturer's test procedures.

29. Smoking Program - The inspector shall review any records required by the smoking program approved under 30 CFR 75.1702. The inspector shall compare the records with information obtained from polling the miners and observe the operator implementing the requirements of the smoking program.

30. Surface Bathhouse Waiver (Posted) - The inspector shall determine if the operator posted the current surface bathhouse waiver per 30 CFR 71.403(c).

31. Surface Safety Program Instruction (Posted) - The inspector shall determine if the operator maintained a Safety Program of Instruction and posted it in conspicuous places throughout the mine pursuant to 30 CFR 77.1708.

32. Thermal Dryers - Thermal dryer control instrument records shall be reviewed to evaluate compliance with 30 CFR 77.314.

33. Ventilation Plan Posting - The inspector shall determine if proposed and current ventilation plans or revisions are posted on the mine bulletin board as required by 30 CFR 75.370(a)(3)(iii) and 75.370(f)(3).

34. Ventilation Plan Review - The inspector shall review the operator's currently approved mine ventilation plan and determine if it was suitable to conditions observed in the mine during the inspection. This evaluation shall include information obtained from the miners installing the ventilation controls, equipment operators in the area, and the mine operator. The results of this evaluation shall be recorded on MSHA Form 2000-204 and submitted with completed inspection report.

35. X- Ray Plan - The inspector shall review and compare the X-Ray Plan agreement with the information posted at the mine.

## C. Surface Areas

1. Aerial Tramways - An inspection shall be conducted of all aerial tramways for existing and potential hazards, including: structure condition, guarding, accumulations, lighting, electrical installation, and fire protection.

2. Auger Openings - Auger openings shall be inspected for potential hazards.

3. Blasting Practices (Surface) - An inspection shall be conducted of all areas where explosives are being used on mine property, including: an observation of work practices, the blasting cycle, storage security, combustible materials, fire protection, and record keeping. The inspector shall complete the appropriate ATF forms.

4. Coal Stock Pile - Coal stockpiles shall be inspected for potential hazards such as fires or persons working in close proximity to active underground feeders.

5. Communications Installations - An inspection shall be conducted of all communication installations for compliance with applicable standards, including attention to: grounding, insulation, lighting protection, proper operation, and safe access.

6. Draw-Off Tunnels - An inspection shall be conducted of draw-off tunnels for existing and potential hazards, such as fire hazards, accumulations, and inadequate escapeways, air quality, guarding, and ventilation.

7. Drilling Practices - An inspection shall be conducted of all drill sites on mine property and the inspector shall observe a complete drilling cycle to evaluate work practices, examination of equipment, safe access, equipment condition, accumulation of combustible materials, fire protection, and noise and respirable dust controls.

8. Dumping Facilities - An inspection shall be conducted of conditions and practices at all dumping facilities in accordance with guidance provided in the Dump Point Inspection Handbook, including the adequacy of stop blocks, berms, access road grades, warning signs, posted speed limits, and the presence of stress cracks.

9. Electrical Installations - An inspection shall be conducted of all electrical installations for existing and potential hazards, such as: structure condition, guarding, accumulations, lighting, fire protection, safety devices, and safe access.

10. Equipment - An inspection shall be conducted of each piece of in-use or available-for-use equipment to determine if hazardous or potential hazardous conditions exist, with attention to: safe access, guards, equipment condition, fire detection systems, combustible materials, fire protection, condition of electrical cables, wiring, and circuit protection.

11. Escapeways - An inspection shall be conducted of all work areas to determine if escapeways are adequate. The inspector shall evaluate

compliance with applicable standards for safe access, lighting, escapeway maintenance, and included discussions with miners working in each area.

12. Explosives Storage - An inspection shall be conducted of all areas where explosives are stored on mine property, including: an observation of storage security, combustible materials, handling, fire protection, and record keeping. The inspector shall complete the appropriate ATF forms.

13. Fire Fighting Equipment (Surface) - An inspection shall be conducted of all surface fire fighting equipment, including an evaluation of: equipment maintenance, placement for safe access if needed, and equipment identification.

14. Fuel Storage - An inspection shall be conducted of all areas where fuel is being stored for compliance with applicable standards including: safe access, combustible materials, handling, and fire protection.

15. Ground Control - The inspector shall evaluate compliance with the current ground control plan. The inspector shall also evaluate the adequacy of the plan for conditions and poll the operator and miners as to their knowledge of the plan.

16. Haulage Facilities (Including Belts) - An inspection shall be conducted of each haulage facility to determine compliance with applicable standards, including attention to: safe access, guards, equipment condition, fire hazards, combustible materials, fire protection, and electrical installations.

17. Health and Safety Discussions - The inspector shall discuss matters concerning health and safety and work practices with each production crew, including: recent accidents, accident history, mine-specific hazards, and occupation-specific health and safety concerns.

18. High Walls And Spoil Banks - An inspection shall be conducted of high walls and spoil banks in all active areas for existing and potential hazards, such: loose material, over hanging rock, or unstable spoil banks.

19. Hoisting Equipment - An inspection shall be conducted of all hoisting equipment to determine compliance with applicable standards, including: structure condition, guarding, accumulations, lighting, electrical installations, rope condition, fire protection, safety devices, and safe access.

20. Illumination Of Work Areas - An inspection shall be conducted of all work areas to evaluate illumination adequacy. The evaluation shall include observation of lighting and information obtained from polling miners.

21. Methane Tests In Required Locations (Surface) - The inspector shall test for methane in all structures and areas where there is a potential for a hazardous accumulations of methane.

22. Mine Map (Surface) - The inspector shall review the mine map for consistency with approved mining methods, mining in proximity to underground mines, electrical power lines, oil and gas wells, fuel transmission lines, mines located adjacent to or below active workings, and any danger that surface mining may present to underground miners.

23. Non-Major Construction Sites - All independent contractors encountered at non-major construction sites shall be inspected for compliance with applicable standards, including: observations of work practices, comparing training records with information received from workers, and inspection of equipment. MSHA Form 2000-208 (inspection notes page) shall be completed and submitted as part of the inspection report.

24. Other Places Where Miners Work Or Travel - Other work areas and travelways shall be inspected for compliance with applicable standards, including: observations of work practices, illumination, safe access, combustible material accumulations, workplace maintenance, and air quality.

25. Potable Water (Surface) - The inspector shall determine if potable water is made available. This evaluation shall include information obtained from the miners and the operator.

26. Preparation Plant - All preparation plants shall be inspected for compliance with applicable standards, including: structure condition, guarding, accumulations, lighting, electrical installation, air quality, fire protection, and safe access.

27. Refuse Piles and Impoundments - Refuse piles and impoundments shall be inspected in accordance with the Coal Mine Impoundment Inspection Procedures Handbook to determine compliance with applicable standards, including: safe access, berms, proximity to underground mines, drainage, combustible materials around site, equipment

condition, and fire protection. A comparison shall be made between the operator's examination records and the inspector's observations.

28. Sanitary Facilities (Bathhouse) - An inspection shall be conducted of all sanitary facilities for compliance with applicable standards, including attention to: location, structure, cleanness, safe access, and compliance with a bathing facilities waiver.

29. Shop - All shops shall be inspected to determine compliance with applicable standards, including attention to: structure condition, guarding, accumulations, lighting, electrical installation, air quality, fire protection, safety devices, and safe access.

30. Surface First Aid Kit - The surface first-aid kit shall be inspected.

31. Thermal Dryer - An inspection shall be conducted of all thermal dryers for compliance with applicable standards, including attention to: structure condition, guarding, accumulations, lighting, electrical installation, air quality, fire protection, safety devices, and safe access.

32. Travelways And Active Roadways - An inspection shall be conducted of all travelways and active roadways for compliance with applicable standards, including attention to: road grades and design, visibility, and traffic control.

33. Ventilation Facilities - An inspection shall be conducted of all ventilation facilities for compliance with applicable standards, including attention to: airway heaters, safe access, guards, equipment condition, fire detection systems, combustible materials, fire protection, condition of electrical cables and wiring, and circuit capacity.

## D. Underground Outby Areas

1. Air Courses - The entire length of each intake and return aircourse shall be inspected to determine compliance with applicable standards, including attention to: ventilation controls, man door condition and placement, mine roof conditions, rock dust application, examination certifications, and any equipment being operated in the air courses.

2. AMS Alarm Systems (AMS) - The inspector shall examine AMS system components and observe the operator making a required calibration of system sensors. Data and times obtained during the inspection shall be compared with information recorded by the system on the surface.

3. Belts, Skip Shaft Facilities, Bunkers - Each belt flight, skip shaft, or bunker and all associated equipment shall be inspected to determine if hazardous or potentially hazardous conditions exist, with attention to: safe access, guards, fire detection systems, combustible materials, fire protection, condition of electrical cables and wiring, power source capacity, and general operating condition.

4. Bleeders Including Each Check Point - At least one entry in each set of bleeder entries shall be inspected in its entirety or to evaluation points approved in the mine ventilation plan to determine compliance with applicable standards, including attention to: ventilation controls, roof conditions, rock dust application, examination certifications, and equipment being operated in the bleeder entries.

5. Diesel Fuel Storage - All areas where fuel is being stored underground shall be inspected to determine compliance with applicable standards with attention to: safe access, combustible materials, handling, fire protection, safety alarms, and record keeping.

6. SCSR Storage Locations - All locations where SCSRs are required to be stored shall be inspected to determine compliance with applicable standards, including attention to: comparing the data from inspection records with observations made during the physical inspection of a representative number of self rescue devices. A representative number of miners shall be polled concerning donning procedures.

7. Escapeways (Including Facilities) - All escapeways and facilities shall be inspected in their entirety to determine compliance with applicable standards, including attention to: ventilation controls, man door condition and placement, markings showing the route of travel, mine roof conditions, rock dust application, examination certifications, and any equipment being operated in the escapeway or facilities.

8. Longwall Tailgate Entry - Longwall tailgate travelways shall be inspected in their entirety to determine compliance with applicable standards, including attention to: ventilation controls, man door location and placement, approaches to worked out areas, mine roof conditions, rock dust application, examination certifications, and any equipment being operated in the tailgate travelway.

9. Non-Pillared Worked Out Area - Non-pillared worked out areas shall be inspected to the point of deepest penetration or to alternative evaluation locations approved in the mine ventilation plan to determine compliance with applicable standards, including attention to: ventilation controls,

mine roof conditions, rock dust application, examination certifications, and any equipment being operated in the worked out area.

10. Outby Equipment - An inspection shall be conducted of each piece of in-use or available-for-use mobile equipment to determine if hazardous or potential hazardous conditions exist, with attention to: safe access, guards, equipment condition, fire suppression systems, combustible materials, fire protection, condition of trailing or inter-machine electrical cables, cable conduit, safety devices, and diesel compliance.

11. Seals - All mine seals shall be inspected to determine compliance with applicable standards, including attention to: seal condition, water traps, test pipes, examination certifications, and seal ventilation.

12. Track Haulage Roads - Each track haulage road shall be inspected to determine if hazardous or potentially hazardous conditions exist, including: clearance, switches, bonding, trolley guards, equipment, combustible materials, fire protection, and condition of electrical cables and wiring. The inspector shall compare information from examination records with observations made during the examination.

## E. Working Sections

1. Blasting Practices - An inspection shall be conducted of all areas where explosives are being used on the section, including: an observation of work practices, the blasting cycle, storage security, combustible materials, fire protection, and record keeping. The inspector shall complete the appropriate ATF forms.

2. Boreholes In Advance Of Mining - The operator's compliance with plans approved under 30 CFR 75.388 and 75.389 shall be evaluated by the inspector. Discussions shall be conducted with affected miners and mine supervisors to evaluate their familiarity with plan requirements.

3. Communication Installations - An inspection shall be conducted of all communication installations for compliance with applicable standards, including attention to: grounding, insulation, lightning protection, proper operation, and safe access.

4. Dust Control Parameters - Dust controls used on the section shall be inspected to determine compliance with the approved mine ventilation plan. Miners shall be polled to determine if conditions observed are representative of normal mining conditions. Respirable coal mine dust samples shall be collected pursuant to the Coal Mine Health Inspection Procedures Handbook.

5. Dates, Times, and Initials - The inspector shall examine all faces on each working section and determine if the mine examiner had certified with dates, times and initials that the required examinations were conducted.

6. Escapeway Map - The inspector shall determine if an up-to-date escapeway map is maintained on each working section. Discussions shall be conducted with the miners to determine if they are familiar with the map location, the designated escape routes, and evacuation procedures.

7. Fire Protection - All fire fighting equipment available for use on the section shall be inspected for compliance with applicable standards, including attention to: equipment maintenance, placement for safe access, inspection record, and adequate capacity.

8. First-Aid Equipment - An inspection shall be conducted of all underground first-aid kits for compliance with applicable standards.

9. Health and Safety Discussions - The inspector shall discuss matters concerning health and safety and work practices with each working section crew, including: recent accidents, accident history, mine-specific hazards, and occupation-specific health and safety concerns.

10. Mining Cycle - The inspector shall observe the complete mining cycle on the working section; including the loading and detonation of explosives on conventional working sections or mines that blast from the solid.

11. Haulage Practices - The inspector shall observe haulage practices to determine compliance with applicable standards and evaluate work practices for health and safety.

12. Potable Water (Working Section) - The inspector shall determine if potable water is available. This evaluation shall include information obtained from the miners and the operator.

13. Required Ventilation Controls Adequate - Temporary and permanent ventilation controls shall be inspected on each working section during normal mining cycles to determine effectiveness and compliance with applicable standards, including attention to information obtained from the miners installing the ventilation controls, equipment operators, and the mine operator.

14. Rock Dust Applications - The inspector shall examine the working section and determine if rock dust application is adequate. Spot samples

shall be collected where compliance can not be clearly determined by visual observation.

15. Rock Dust Survey Taken - The inspector shall conduct a rock dust survey to within 50 feet of the section dumping point on each advancing active working section in the mine. Locations where samples were not previously collected due to wet conditions shall be tracked and inspected for a period of one year.

16. Roof & Ribs Conditions - The inspector shall observe roof and rib conditions on each active working section to determine compliance with applicable standards, including attention to: roof control failures, roof control plan requirements, and information obtained from the miners installing the roof supports and the mine operator.

17. Sanitary Facilities - Sanitary facilities shall be inspected for compliance with applicable standards, including attention to location and cleanness.

18. Section Equipment - Each piece of in-use or available-for-use equipment shall be inspected to determine compliance with applicable standards, with attention to: permissibility, safe access, guards, equipment condition, fire suppression systems, combustible materials, fire protection, condition of trailing or other machine electrical cables, cable conduit, circuit breaker capacity and identification, methane monitors (where applicable), dust control, and safety devices.

19. Self-Rescue Devices (Working Section) - The operator's compliance with approved self-rescuer condition-of-use requirements shall be evaluated by inspecting a representative number of each type of device in use at the mine, but not less than ten percent. A higher percentage should be inspected when devices are worn, carried, or machine-mounted. These inspections should be conducted in accordance with the manufacturer's approved daily inspection procedures. The inspector shall evaluate the adequacy of SCSR training by discussing donning procedures with a representative number of individual miners to ascertain their understanding of how to use the SCSR. If inspectors are made aware of any self-rescuer training deficiencies, they should report them to the District training/liaison/specialist.

**F.** **Ventilation (General Tests and Measurements)**. The direction and quantity of airflow shall be determined and tests for the presence of methane and oxygen deficiency shall be made at the following locations and the results documented in the Inspection Tracking System:

1. In the last open crosscut of each set of entries or rooms on each section and areas where mechanized mining equipment is being installed or removed;
2. On a longwall or shortwall, including areas where longwall or shortwall equipment is being installed or removed, in the intake entry or entries at the intake end of the longwall or shortwall;
3. At each end of the longwall or shortwall face at the locations specified in the approved ventilation plan;
4. At the intake end of any pillar line;
5. Where air enters the main intakes;
6. Where air enters each intake split that ventilates a working section;
7. In the return of each split of air that ventilates a working section, immediately before it enters the main returns
8. Where the air leaves the main returns;
9. In the entry nearest each set of seals, immediately after the air passes the seals (airflow measurement not required);
10. At the measurement points specified in the mine ventilation plan for evaluating bleeders systems and worked-out areas, including where air enters and leaves the worked-out areas; and
11. In each outby aircourse traveled during an inspection day (tests for oxygen deficiency and methane only).

It should be noted that carbon dioxide ($CO_2$) and nitric oxide (NO) are produced during the combustion of diesel fuel. These gases may pose a hazard to anyone receiving short-term exposure to harmful quantities. See the following chart for additional information.

**Mine Gas Exposure Levels**

| Gas | TLV® | Excursion Limit | Explosive Range |
|---|---|---|---|
| Oxygen ($O_2$) | 19.5% min. | Not Applicable | Not Applicable |
| Carbon Dioxide ($CO_2$) | 0.5% | 0.5%-statutory limit* | Not Applicable |
| Carbon Monoxide (CO) | 50 ppm | 400 ppm for 15 min. | 12.5% - 74.2% |
| Nitric Oxide (NO) | 25 ppm | 37.5 ppm for 15 min. | Not Applicable |
| Nitrogen Dioxide ($NO_2$) | 5 ppm-ceiling limit | 5 ppm-ceiling limit | Not Applicable |
| Methane ($CH_4$) | Not Applicable | Not Applicable | 5% - 15% |

*Persons who work or travel in bleeders or worked out areas may be exposed to up to 3.0% carbon dioxide for a time period not to exceed 15 minutes. Oxygen and carbon dioxide limits from 30 CFR 75.321. Other limits from ACGIH TLV's®, 1972 (30 CFR 75.322).

**G. Ventilation (Diesel Equipment).** At underground mines where diesel equipment is being operated, measurements of airflow quantity and tests for the presence of carbon monoxide and nitrogen dioxide shall also be made at the following locations and the results documented in the Inspection Tracking System:

1. In any working place where the equipment is being operated;
2. At the section loading point during any shift the equipment is being operated on the working section;
3. In any entry where the equipment is being operated outby the section loading point in areas of the mine developed on or after April 25, 1997;
4. In any air course with single or multiple entries where the equipment is being operated outby the section loading point in areas of the mine developed prior to April 25, 1997;
5. At any other location required by the district manager and specified in the approved ventilation plan where minimum ventilating quantities must be maintained;
6. In the last open crosscut of each set of entries or rooms in each working section;
7. In the intake reaching the working face of each longwall; and
8. At the intake-end of any pillar line.

**H.** **Air Sample Locations.** The quantity of airflow shall be measured; samples of mine air collected for analysis to determine the quality of the air; and the results documented in the Inspection Tracking System for the following locations:

1. In each of the working section return entries, outby and as close as practical to the last permanent stopping (to determine section face liberation);
2. At all locations where air leaves worked-out areas, prior to mixing with another split of air; and
3. At all locations where air leaves the mine (to determine total mine methane liberation).

Samples of mine air shall also be collected and submitted for analysis where methane is detected at or above 1.0 percent on a hand-held methane detector at a rock dust survey or spot sampling location.

## IV. OTHER INSPECTION-RELATED ACTIVITIES

**A. New Mines, Coal Facilities, and Other Sites.** On the first visit to a new mining operation, the inspector shall make certain that the mine operator is aware that the Act, 30 CFR, and MSHA policy govern inspector actions at their mine.

The operator should be informed that these documents are available for viewing on MSHA's website (www.msha.gov). It should also be pointed out that some of these documents are available in hard copy from MSHA's National Mine Health and Safety Academy located at Beaver, West Virginia. Additionally, a discussion should be conducted and the operator made aware of MSHA's role concerning enforcement, education & training, and technical assistance.

Key MSHA contact names, positions, and phone numbers within the field office and district having inspection jurisdiction of the mine should also be made available to the mine operator should questions arise regarding health, safety, compliance, or other concerns at a later date.

**B. Shaft or Slope Construction Sites.** Shaft and slope construction operations shall be inspected monthly. The inspection activity shall, to the extent possible, include an observation of all critical phases of the operation such as drilling and shooting, installation of water rings, operation of the hoisting rig lowering and raising materials and employees, etc.

Until all work regarding the project outlined in the approved shaft and/or slope sinking plan is completed, 30 CFR Part 77 standards shall apply to the shaft construction site. The shaft sinking plan required by 30 CFR Part 77 should indicate when the applicable provisions of 30 CFR Part 75 shall be met by the responsible organization that commences the mining cycle.

**C. Other Major Construction Sites.** Regular Safety and Health Inspections of major construction sites at existing underground mines shall be conducted every quarter of the fiscal year, and at surface mines and facilities, two times per year. At the discretion of the District Manager, inspections may be conducted more often to address unusual hazards.

**D. Interconnected Mines.** Where adjacent mines are connected underground and are considered separate mines, the inspector should issue an order to each mine if any imminent dangers are found in a mine that may affect the safety of the miners in the connected mine. The inspector should implement this procedure regardless of whether these mines are controlled by the same or different operators.

**E. Non-producing Mines.** Regular Safety and Health Inspections shall be conducted at non-producing mines at which persons are working to determine compliance with standards applicable to the activities at the mine. At underground mines that are declared inactive by the operator, permanently closed, or abandoned for more than 90 days, inspections of surface areas should be scheduled and conducted at times necessary to determine compliance with 30 CFR 75.1711.

**F. Reopening Inspections.** A safety and health reopening inspection of the entire mine shall be conducted in accordance with 30 CFR 75.373 before mining operations are resumed at mines that have been abandoned or declared inactive by the operator. The intent is to ensure the safety of miners at mines that have not been routinely examined during periods of inactivity. An exception is where there has only been a change of mine name or ownership and the mine has not actually been physically closed or abandoned. At underground mines, a safety and health inspection of the entire mine shall be conducted as soon as practical after notification from the operator that the mine is reopened.

The reopening inspector shall determine whether the provisions of 30 CFR 75.1721 or 77.1712 have been complied with in full. Any citation or order of withdrawal issued during the course of a reopening inspection should reflect that this inspection was made prior to reopening the mine. Any violations caused by or attributed to the negligence of the current operator should be issued on an inspection code other than that for a reopening inspection.

Only rehabilitation work may be performed on the surface areas of underground mines by an operator prior to notifying MSHA. Surface rehabilitation work may occur prior to or during a reopening inspection, but production of coal shall not begin until the reopening inspection has been completed. This affords MSHA the opportunity to accurately assess the proposed mining systems and also to identify any potential problems that may present hazards to miners before mining operations commence. If the inspection can be performed safely inby the point where a new section is to be started, the area may be released. Areas that cannot be inspected will be sealed or ventilated in a manner that will not affect working sections. At underground mines, a Regular Safety and Health Inspection of the entire mine shall be started within 30 days after the mine begins production.

**G. Spot Inspections.** Spot inspections can be conducted for a variety of purposes. They include but are not limited to determining the status of citations, notices to provide safeguards, or others issued during a previous inspection; collecting additional samples; and monitoring potentially

hazardous conditions not covered by Section 103(i). Section 103(i) of the Act defines the conditions in mines under which spot inspections are to be conducted at various time intervals. Such a spot inspection shall not constitute a part of any other category of inspections and shall be directed specifically to the problems, hazards, or conditions under which the mine was classified as a Section 103(i) mine. However, this does not prevent another category of inspection or investigation from being conducted during the same visit to the mine.

**H.** **Railroad Equipment**. MSHA field personnel should report unsafe conditions involving railroad equipment owned by a railroad company (including trackbed, railroad cars, or other equipment) to MSHA's liaison officer at headquarters, and provide the officer with the appropriate mine information, name of railroad company, the conditions or circumstances which are deemed unsafe, and any other relevant information. These unsafe conditions will be discussed with the Federal Railroad Administration (FRA) liaison officer at headquarters and referred to FRA's field staff for prompt investigation. FRA will provide MSHA with the results of the investigation and actions taken, including any action necessary by the railroad to repair the track or equipment in question.

If the unsafe trackbed, railroad cars, or equipment owned by the railroad company presents an imminent danger, a Section 107(a) imminent danger withdrawal order, with no underlying violation, should also be issued to the mine operator, requiring that the mine operator's employees be removed from the unsafe area. If the above procedures have been followed and the hazard continues to exist, an appropriate citation or order may be issued to the railroad company requiring that the unsafe condition be corrected. The inspector should ensure that MSHA has jurisdiction over the unsafe equipment, i.e., the equipment is located on mine property.

When the mining company owns the railroad trackbed, railroad cars, or other equipment and any of these are found to be in violation of the Act or standards, an appropriate citation or order must be issued to the mine operator. If warranted, a Section 107(a) imminent danger withdrawal order should also be issued to the mining company.

**I.** **Explosives.** Compliance inspections of explosives storage facilities on mine property shall be conducted to determine if the facilities meet or exceed the requirements of the Commerce in Explosives regulations (27 CFR Part 55, Subpart K - Storage). The inspector shall:

1. Inspect records of licensees and permittees under MSHA jurisdiction;

2. Report each compliance inspection to the Bureau of Alcohol, Tobacco and Firearms (ATF) Regional Regulatory Administrator; and
3. Inspect storage facilities where explosive materials are stored.

As a precaution against the use of deteriorated explosives, the inspector should check with mine operators concerning explosive materials they have purchased. If there is any indication that explosives recently purchased were in a deteriorated condition, obtain the name of the operator's explosives supplier. Forward this information to the nearest ATF office. In addition, determine that any deteriorated or damaged explosives encountered are being handled and disposed of properly.

Consider deteriorated explosives as non-permissible, as they can become quite sensitive and detonate very easily if mishandled. If they are used, a misfire, hang-fire, or fire can occur. Therefore, special precautions must be taken in their removal and disposal. They must be transported in limited quantities and in proper containers, preferably with a sawdust bed for insulation and absorption qualities. Carefully consider and evaluate the following factors when dealing with deteriorated explosives: amount of explosives, location, condition, personnel, and transportation.

Deteriorated nitroglycerin-sensitized permissible explosives can normally have the following defects:

***Absorption of Moisture.*** This is indicated by the wet or pasty condition of the powder, usually at the machine-pack end. This condition is caused by the hygroscopic (readily absorbing and retaining of moisture) effect of the ammonium nitrate, a high percentage ingredient of the explosive.

***Leakage of Nitroglycerin.*** Leakage is shown by the discoloration of the shell paper or by the presence of drops of nitroglycerin on the case liner and possible discoloration of the box. Leakage may be due to old age or to absorption of moisture that forces out the nitroglycerin. The operator should consult the manufacturer if nitroglycerin from deteriorated explosives has leaked onto the floor of the magazine. The floor should be desensitized by washing thoroughly with an agent approved by the manufacturer for that purpose. If experienced personnel are not available for removal or disposal, or if there is any question about the safety of the undertaking, the handling and destruction of the explosives should not be attempted until a representative of the explosives manufacturer has been consulted.

Document a violation or noncompliance on ATF Form F 5030.5, Report of Violations, and give the original to the licensee, permittee or operator.

The inspector shall make a "recall" inspection on a scheduled date, when necessary, and complete Part II of Form F 5030.5 at that time. If a second "recall" inspection is necessary, the inspector will complete Part III of Form F 5030.5. A report showing no violations may be on any appropriate form, provided the name, address, and license or permit number, if any, of the proprietor and the date of inspection are shown. Attach the completed form to the mine inspection report.

If a condition is a violation of both 30 CFR and 27 CFR, issue a citation/order and document the action on the ATF F Form 5030.5. For further reference, consult ATF P 5400.7 (11/82), "ATF: Explosives Law and Regulations" and 27 CFR Part 55, "Commerce in Explosives."

**J. Evaluating Applications to Become Qualified to Perform Blasting in Underground Coal Mines.** Persons performing blasting in underground coal mines must be either certified to perform blasting by the state in which the mine is located or be qualified by MHSA to perform blasting. To be qualified by MSHA, underground coal miners must successfully demonstrate to an authorized representative (AR) their ability to safely use permissible explosives. In states lacking programs for certifying blasting personnel, MSHA is the qualifying agency and the District Managers have been delegated this responsibility.

The procedures listed below are to be used when evaluating applicants to become qualified to perform blasting in underground coal mines under provision of 30 CFR 75.1301. The basic approach is for each potential qualified blaster to answer a series of questions on the use of explosives and demonstrate critical tasks associated with the blasting operation. The demonstration may either be held underground at the coal face, or on the surface using a simulated coal face. Either way, knowledge of the same critical tasks must be demonstrated. General instructions for ARs to conduct the evaluations are given below. Demonstration questions and answers, an answer sheet, and drawings of an acceptable simulated coal face are available in the District Office.

1. When the demonstration is held at a mine, the AR should inform both mine management and the representative of the miners that he or she is there for a qualified blaster demonstration.
2. When the AR meets the candidates, they should be put at ease. The AR should briefly explain that the purpose of the demonstration is for the candidate to show the ability to use explosives under the provisions of 30 CFR 75, Subpart N, by answering questions and performing certain tasks.

3. To be successful, the candidate for qualified blaster must answer at least 80 percent of the questions correctly and demonstrate the ability to perform the critical tasks. Demonstration of the critical tasks should be permitted only after the required percentage of questions is correctly answered.
4. All questions or tasks not answered or performed properly should be thoroughly discussed with the candidate upon completion of the demonstration. Questions should be repeated as necessary.
5. Successful demonstrations will be documented on MSHA Form 5000-17, Certification/Qualification Examination Report, and submitted to the Qualification and Certification Unit, P.O. Box 25367, Denver, Colorado 80225-0367. A "Qualified Person: Blasting" card will be issued by the Q & C Unit and mailed to the qualified person.

**K. Appearance as a Witness in Litigation Involving MSHA.**

1. MSHA personnel who have been asked to participate in or expect to be called as a witness in litigation to which MSHA is a party should:
   a. thoroughly review all citations, orders, documents, investigative reports, and notes involved in the case, and provide legible copies to the attorney or Conference/Litigation Representative (CLR) handling the litigation;
   b. inform supervisory personnel of the litigation and their involvement therein, who will ensure that the affected employee is available to the attorney or CLR prior to deposition or trial to discuss the circumstances of the case and details of testimony;
   c. make necessary arrangements to attend any deposition or hearing and meet with the attorney prior to the deposition or hearing;
   d. immediately inform the attorney or CLR handling the case of any changes in circumstances regarding the enforcement action, his or her availability to appear, and contacts with, or requests from, the opposing party or the opposing party's representative, or subpoenas requiring attendance at any meetings or proceedings; and
   e. under no circumstances, communicate with an opposing party's representative without the knowledge and participation of the Solicitor's Office or the CLR assigned to the case. Nor shall MSHA personnel divulge communications between SOL attorneys or the CLR assigned to a case to opposing parties or third parties. Also, MSHA personnel shall not provide any written materials to opposing parties or third parties without the knowledge and permission of SOL or the CLR assigned to the case.

2. During litigation, including deposition and trial, MSHA personnel called as witnesses should:
   a. dress neatly and conduct themselves in a professional manner;
   b. be cooperative, respectful, and attentive to the judge, participating attorneys, and other interested parties;
   c. when testifying, truthfully answer questions asked and, if the witness does not know the answer, this fact he or she should so state;
   d. when testifying, answer questions directly without volunteering extraneous information; and
   e. when testifying, promptly correct misstatements in testimony or clarify a point that has clearly been misunderstood.

**L. Appearance as a Witness or Other Participation in Private Litigation.** MSHA follows the guidelines for Department of Labor employee testimony found in 29 CFR 2.20. Specifically, this policy relates to:

1. Subpoenas served on MSHA employees requiring them to either (1) produce documents or other written materials, or (2) appear and testify in administrative or judicial proceedings (including labor arbitrations and actions brought by individuals under Section 105(c)(3) of the Mine Act) to which MSHA is not a party.
2. Written or oral requests to informally interview MSHA employees or to produce official MSHA documents or other material that may be used in future administrative or judicial proceedings (including labor arbitrations and actions brought by individuals under Section 105(c)(3) of the Mine Act) to which MSHA is not a party.

When subpoenas and requests outlined above are received by an MSHA employee, the employee's supervisor shall be informed immediately. Field supervisors shall promptly refer the matter to the appropriate regional or MSHA SOL. No further action shall be taken until authorized by the Office of the Solicitor. In particular, the substance of the case should not be discussed with the party's representative who issued the subpoena or made the informal request until the MSHA employee receives permission to do so. There should be no discussions with any outside parties about the substance of the requests. A copy of the subpoena or request, along with all available pertinent information, should be forwarded to the regional or MSHA SOL immediately upon receipt.

These procedures are **not** applicable when the matter is initiated by MSHA or at the request of the U.S. Attorney's office in an MSHA-related case. In these instances, the provisions of Section K above apply.

## V. SAMPLING PROCEDURES

**A.** **Air Samples**. Air samples shall be collected to substantiate violations citing excessive $CH_4$, CO, $CO_2$, and low $O_2$. The location of samples collected shall be no less than 12 inches from the roof, face, and ribs. Special collection media may be required to sample for the presence of dusts, fumes, mists, and vapors. The Pittsburgh Safety and Health Technology Center (PSHTC) should be contacted for guidance on special collection media.

Air samples sent to the lab are routinely analyzed for $CO_2$, $O_2$, $CH_4$, and $C_2H_6$. If analysis for CO, $H_2$, or other constituents is needed, indicate the chemical by symbol in the remarks section. The 10-milliliter (ml) air sample bottles shall be used to collect most air samples during inspections or during investigations of accidents or natural deaths where the quality of air may be a factor, and when analysis of a constituent not routinely reported is desired. For CO and $CO_2$ analysis, 50-ml air sample bottles should be used. Do not use ordinary 10-ml or 50-ml bottles to sample for $SO_2$, $H_2S$, oxides of nitrogen, or aldehydes; special testing tubes or vessels are needed.

Carefully determine the number of samples necessary to calculate total methane liberation for a mine. If duplicate samples are collected at any location for any reason during a Regular Safety and Health Inspection, only one sample should be marked for use in the calculation of total methane liberation for the mine.

1. Instructions for Completing the Mine Atmosphere Sample Record are as follows:
    a. Bottle Number - Enter the bottle number printed on the label of the bottle being used.
    b. Mine I.D. - Enter the 7-digit I.D. Number assigned to the mine where the sample was collected.
    c. Number - This is the number of the sample being collected during the event. For example, the first sample taken would be number 1, the second sample number 2, etc.
    d. TL - Check this block for each sample collected during a Regular Safety and Health Inspection that is to be included in calculating the total liberation for the mine. Leave this block blank for all other samples.
    e. Mine - Enter the name of the mine where the sample was collected as it appears on the Legal I.D.

f. Incomplete - Check this block if more samples will be collected during this inspection.

g. Complete - Check this block when the last sample for the inspection event has been collected.

h. Company - Enter the name of the company as it appears on the Legal I.D.

i. Collector (name and mailing address) - Enter the name and business address of the person collecting the sample.

j. Field Office responsible for Regular Safety and Health Inspection (F.O. code) - Enter the 5-digit code for the office with responsibility for inspecting the mine. This is not necessarily the office where the inspector collecting the sample is assigned.

k. Location in Mine - Include a brief but clear description of the location in the mine where the sample was collected; such as 300 ft outby spad number 9194 in No. 6 entry on the 002-0 section.

l. Date - Enter the date the sample was collected.

m. Air Quantity - Enter the calculated air quantity measured at the location where the sample was collected.

n. $Ch_4$ - Indicate the volume per centum of methane, as determined with an approved methane detector, at the time the sample was collected.

o. No. of sampling points required to calculate TL - This is the total number of sampling points needed to calculate the total methane liberation for the mine.

p. Last TL Sample - Check this block when the last sample needed to calculate the total liberation for the mine has been collected.

q. For Lab Use Only - Do Not Write in This Space. This is for use by laboratory personnel only.

r. Remarks-- The "Remarks" section on the front side of the Mine Atmosphere Sample Card may be used to convey any additional information concerning the sample deemed necessary, such as: pressure on seals (inches water gage, positive or negative); barometric pressure; or special analysis desired.

The results of all air samples sent to the MSHA laboratory for analysis will be transmitted to the appropriate office (district or field office) in a report. This report should be filed with the inspection report.

When special samples are collected in connection with a problem arising at a mine or to substantiate a violation (i.e., less than 19.5 volume per centum of oxygen, more than 0.5 volume per centum of carbon dioxide, harmful quantities of other noxious or poisonous gases), inform laboratory personnel of the problem involved. Mark the Mine Atmosphere Sample Record for special samples with a conspicuous red "S" on the front of the card in the upper left corner. Such samples are given preference over other samples and the analytical results will be promptly reported to the appropriate office.

2. Procedures for Processing Air Samples taken to substantiate violations:

   a. Describe in the citation or order the location where the air samples were taken to substantiate the violation.

   b. Make a notation on the Mine Atmosphere Sample Record stating the number of the citation or order, the initials of the inspector, and the date and time of issuance.

Where possible, mail the maximum number of samples that a holder/mailer will accommodate at one time; however, mail air samples within five days after collecting (the five days include Saturday and Sunday). Samples collected from more than one mine may be mailed in the same holder/mailer. Mail all air samples (in accordance with postal regulations) to MSHA's Gas Analysis Laboratory in Mt. Hope, WV.

If the analysis of an air sample discloses a violation not determined with testing instruments during the inspection, return to the mine and issue the appropriate enforcement action.

## B. Rock Dust Samples

1. Collecting Samples. Collect samples to substantiate the violation when citing inadequate rock dust. Samples should be collected when any doubt exists concerning adequacy of rock dust applications in the active workings of the mine; including working sections in areas at least 40 feet outby the working faces. Collect samples of mixed dust by the band or perimeter method from the entry or room, including a 1-inch depth of the material on the floor. Combine dust from the roof, ribs, and floor into one "band" sample. If the amount collected is more than required, thoroughly mix the sample, cone and quarter to cut the bulk to the desired amount. Occasionally, it may be necessary to take more than one strip, but in such case, the total width of the strip must be the same for the roof, each rib, and floor. Collect separate samples of dust from the roof, ribs, or floor when necessary. Where a greater entry height makes it impractical or unsafe to collect full perimeter samples, collect a floor sample and a sample from the ribs to the maximum height that can be

done safely and practically. The rib sample and the floor sample may be either combined or prepared separately. When rib samples are collected and reported separately, assume the incombustible content of the rib sample represents the incombustible content of the rib and roof surface at the sampling location.

Fill the plastic sample bags at least half full. The identifying tags are blank and inspectors can use their own numbering system on the face of the tag. Include the name of the inspector and the name of the mine on the back of the tab. Consecutively number or code the samples for any one inspection. The numbers or code used shall not exceed three digits. Be certain that the identification is legible. The bags are long enough to permit tying a knot in the open ends when they contain the average size sample. Securely tie the string of the tag within the formed knot of the sample bag.

The inspector must consecutively number spot location samples with numbers only. Do not use letters, since letters are used to designate dust survey samples. Spot location samples and dust surveys shall be listed on separate sample cards, but they can be mailed in the same box.

The laboratory needs the inspector's name, the name of the mine, the properly numbered tag attached firmly to the sample, and a completed sampling card. If the mine name is clearly printed on the A-1 sample tag and about every other tenth bag of the survey samples, it will be sufficient for the laboratory's needs. Do not put these sample numbers in the column for "Lab. No." For the "Sample of" column, the word "band" is acceptable for a sample representing the full perimeter at the point of sampling. Include the words "return air course" or "intake air course" in parentheses, as applicable, after the location of each sample on the cards forwarded with the samples. All samples submitted without the collector's name and office address will be analyzed but the report will be held until this information is received.

Tests for methane shall be made at each rock dust sample location with a properly calibrated hand-held methane detector and the results recorded in the inspection notes. If less than 1.0 percent methane is detected, that percentile will be used to determine compliance with 30 CFR 75.403; concerning additional incombustible content when methane is present in the ventilating current. Where methane is detected at or above 1.0 percent on a hand-held methane detector at sampling location, a bottle sample of mine air shall also be collected at the sample location and the bottle number recorded in the inspection notes. The bottle sample will

be sent for analysis and the results used to determine compliance with 30 CFR 75.403.

It is the responsibility of the Mount Hope laboratory supervision to ensure that rock dust spot and survey analysis reports and accompanying analysis data are promptly made available for use by the districts. The Rock Dust Data Retrieval Application permits monitoring of prompt issuance of citations/orders for non-compliant samples or surveys, tracking wet survey location re-inspections, mining analysis data, and printing of oversight reports.

Each Regular Safety and Health Inspection report must contain a printed copy of the inspector-submitted MSHA Form 2000-156. If MSHA management has given the inspector instructions not to collect a survey, the supervisor responsible for inspections at the mine shall document clearly why a survey was not conducted. Such documentation shall contain, as a minimum: documentation why a survey was not collected, the inspection event number, the MMU number, the supervisor's signature, and the date the document was prepared. This document shall be included within the inspection report. The responsible supervisor shall assure that all rock dust spot or survey analysis reports returned from the Mount Hope Lab by email attachment to the district are included within the appropriate inspection report. A citation or order shall be promptly issued for non-compliant rock dust spot samples or surveys. The citation or order number of each non-compliance issuance shall promptly be entered into the Rock Dust Sample Submission Application and the data uploaded.

2. Rock Dust Surveys**.** During each Regular Safety and Health Inspection, a uniform rock dust survey shall be made in each advancing working section to determine compliance with 30 CFR 75.403. If for any reason a survey is not possible, the inspectors must promptly notify their supervisor. The supervisor, after consulting with district management, will provide guidance to the inspector. The surveys are to be kept current, up to and including the last row of pillars immediately outby the loading point. For example, if a working section has advanced and the loading point moved one crosscut or more inby since the last Regular Safety and Health Inspection, a survey must be conducted.

   Prior to completing a Regular Safety and Health Inspection, a careful review of the mine map shall be made to assure that all active areas of the mine have been surveyed. All active entries not previously surveyed on retreating sections; including longwall units, will be surveyed.

Include in the collection of dust samples a representative number of crosscuts.

***Locations where samples were not previously collected due to wet conditions shall be tracked and inspected for a period of one year.*** The status of each of these individual wet locations must be determined during each regular inspection conducted within this one-year period. ***Spot samples must be collected if conditions permit on a re-inspection of a previously wet area.*** The previous compliance/non-compliance determination of rock dust surveys will not be affected by the additional analysis of spot samples collected during re-inspection of wet areas. A citation or order should be issued when non-compliance is indicated for 10% or more of the individual spot samples collected during re-inspection of areas previously indicated too wet for survey sampling. If the status of a re-inspected wet area changes, it must be updated by the inspector in the Rock Dust Sample Submission Application and the data uploaded.

Rock dust surveys should include samples from a representative number of crosscuts. Where possible, the maximum interval between sample locations shall be not more than 500 feet. If the sampling location is less than 40 feet from the face, do not take a sample. Normally, not more than five rows of samples will be collected without including dust samples from the crosscuts. If more than five rows of samples are collected without including a line of crosscut samples, an explanation must be provided in the narrative portion of the inspection notes explaining why crosscut samples were not included in the survey. The survey number shall precede the sample number when two or more surveys are made.

Determine the starting point from the face for such surveys, associating that point with something relatively permanent such as an intersection, survey station, pump room, or borehole. To say that a sample was collected a certain distance from a working face is meaningless. The sampling area must be well described and precisely identified so it can be located on the mine map by either the operator or another inspector at a later date.

3. Data Submittal and Mailing of Bagged Samples**.** Rock dust spot or survey sampling data must be entered into and submitted utilizing the Rock Dust Submittal Application. Any combination of bagged rock dust samples and/or wet locations (including those where all locations are wet) are considered a survey. ***It is extremely important that all survey***

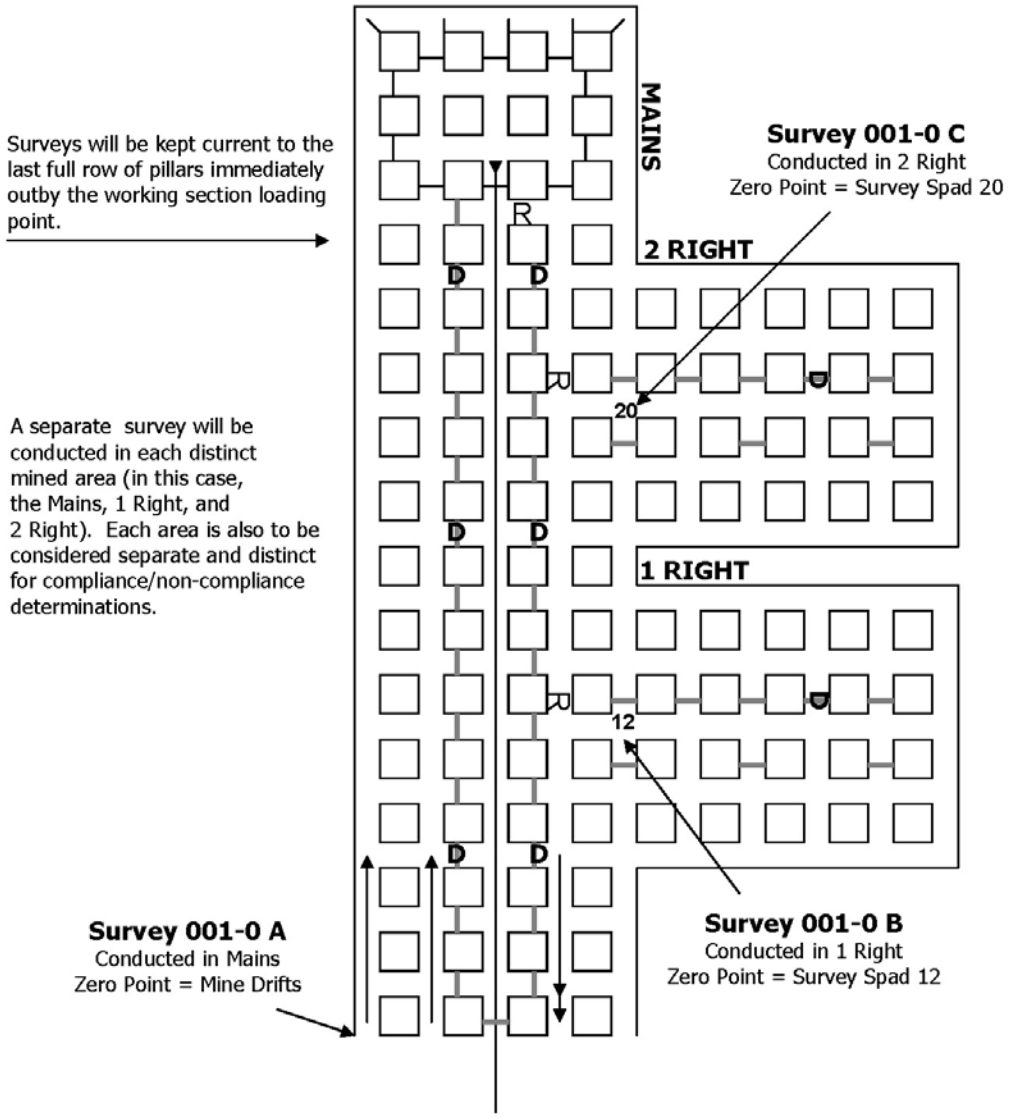
***data be entered into and submitted utilizing the Rock Dust Submittal Application.*** Entering this data and providing the subsequent updates concerning citation or order issuance and wet sample status provides assurance that compliance actions are being taken and that wet sample tracking is being consistently conducted in all bituminous districts.

Mail the samples as soon as possible in accordance with postal regulations. Securely seal the shipping boxes to prevent loss of samples in transit. Include the return address on the shipping label. Use a regular corrugated pasteboard carton, but fill voids around the bags with crumpled newspaper to keep the bags from breaking open from rough handling. Do not use crumpled manila envelopes, excelsior, paper towels, or tissues as packing. Dust Sampling Lab Report (MSHA Form 2000-156) should be prepared and uploaded to the Mt. Hope Lab Server using the Inspector Laptop Rock Dust Database. A copy of MSHA Form 2000-156 must be printed and shipped with the bagged sample(s). Compliance/noncompliance concerning rock dust spot samples or rock dust surveys will be determined at the Mount Hope lab and the results returned to the three email addresses submitted by the inspector on MSHA Form 2000-156.

The Mount Hope laboratory supervisor will notify the appropriate District Manager should spot or survey boxed samples arrive at the lab and no accompanying MSHA Form 2000-156 data is available on the file server. Hard copies of MSHA Form 2000-156 will no longer be accepted for submittal of rock dust spot or surveys to determine compliance with 30 CFR 75.403. ***Only data concerning spot or survey samples collected to determine compliance with 30 CFR 75.403 should be entered and submitted utilizing the Rock Dust Submittal Application.*** Visual determinations are normally sufficient to determine non-compliance with 75.400.

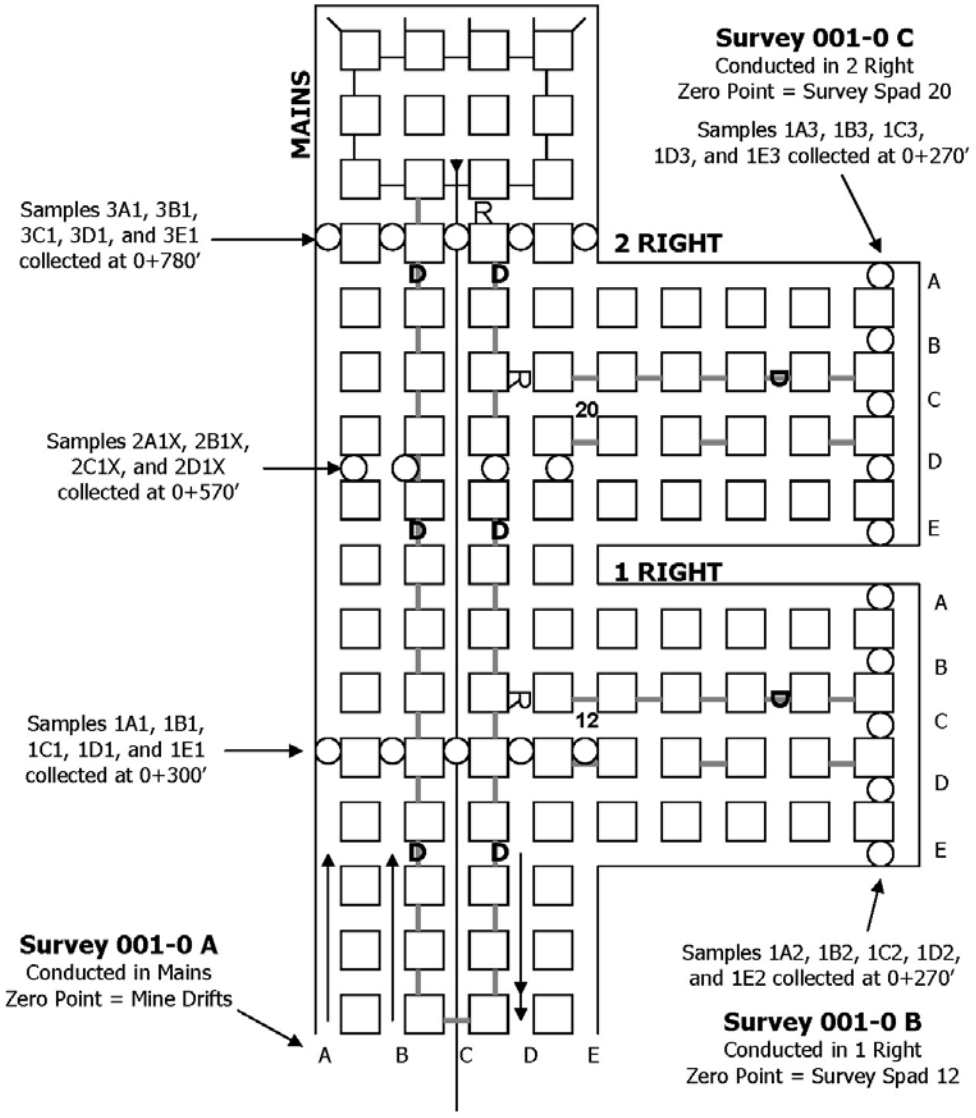
## Drawing #1

**This drawing shows separate surveys where a single MMU has mined multiple distinct areas of a mine. In this case, three zero points are required to clearly show the extent of each survey.**



## Drawing #2

**This drawing shows how each sample location would be designated, documented on the bag sample tag, and entered on each of the three distinct surveys. The three surveys are separate and would be entered as separate surveys in the Rock Dust Sample Submission Application. The surveys also would be considered separately for compliance or non-compliance determinations .**



## VI. INSPECTION DOCUMENTATION

**A. Field Notes.** A pre-printed daily activity cover sheet along with continuation sheets will be used to document the narrative portion of daily field notes. The inspector shall date and initial each page of the narrative portion of the inspection notes, which shall be numbered sequentially each day, starting with the daily cover sheet as Page 1. The narrative portion of the field notes shall consist of, and be limited to:

1. On-site documentation of conditions, practices, tests, and measurements that directly support investigation findings or enforcement actions taken. Daily documentation for enforcement actions shall include all facts relevant to the condition or practice cited and information regarding the negligence and gravity determinations. The facts relating to the eight items listed below shall be documented in the citation or in the narrative portion of the inspector's notes. There is no particular method or format for documenting this information.

    a. What time was the violation observed?

    b. What is the violation?

    c. Where is the violation located or observed?

    d. Who knew the violation existed?

    e. How long has the violation existed?

    f. How many people are exposed to the condition/practice?

    g. If an accident should occur because of this type violation, how serious would it be?

    h. What is the likelihood that this type accident will occur at this mine? Why?

2. Original documentation of required samples, tests, and measurements.

    a. Air reading sheets are provided and may be used for the calculation and documentation of air measurements and tests of air quality. Other legible media, such as maps, may also be used for the original documentation of the location and results of air tests and measurements.

    b. When rock dust surveys are conducted or spot rock dust samples are collected, sufficient information to complete MSHA Form 2000-156

(Dust Sampling Lab Report) will be included in the inspection notes. Pre-printed sheets are also provided to assist in documentation of respirable dust and noise inspections and shall be included in the inspection notes when applicable.

c. When independent contractors are encountered and inspected during <u>any</u> type of inspection, MSHA Form 2000-208 (inspection notes page) must be completed and submitted as part of the inspection report. With the exception of "major construction site inspections," all efforts directed to independent contractors should be contained within the report for the ongoing inspection or investigation being conducted at the time. The inspector shall review the production operator's independent contractor register. Any new data or updates to MSHA's Contractor Database shall be noted and submitted on MSHA Form 2000-205.

3. Other information that the inspector deems necessary to describe the conditions or practices at the mine.

**B. <u>Inspection Tracking System.</u>** The Inspection Tracking System is designed to minimize procedural note taking requirements while enhancing enforcement personnel's ability to determine inspection progress and fulfill established inspection procedures. The inspector shall document all applicable procedural inspection activities in the Inspection Tracking System. When possible, this documentation should be entered into the Inspection Tracking System and replicated at the end of each inspection day to assure that other inspection personnel can access the inspection results and to prevent loss of information. When any portion of a required procedure is not completed for an inspected area or item (such as equipment or electrical installations), a comment specifying the uncompleted portion and explaining the reason for its omission shall be entered in the Inspection Tracking System comment box for that day's activity. If a required inspection procedure cannot be fully completed by the end of the inspection, the inspector's immediate supervisor shall be advised prior to closing the event.

Each time an advancing MMU is inspected, the location of the last open crosscut (LOC) will be recorded in the Inspection Tracking System. The LOC must be identified by its location in relation to a permanent marker that appears on the mine map; such as a survey spad number or a crosscut number. This reference will serve to refresh the inspector's memory should the need arise at a future date and serve as reference point where the inspection ended.

**C. <u>Inspection Report.</u>** After the inspection is completed, the Inspection Tracking Report (generated by the Inspection Tracking System) shall be printed. Participating inspectors shall certify by signature that the minimum requirements for their respective portion of the inspection were completed in accordance with procedures listed in the Inspection Tracking System. This form will document completed procedures in the inspection report.

The inspector shall complete MSHA Form 2000-22 as an internal cover page for all types of inspection or investigative activity reports. All citations and orders, if any, shall be attached in proper sequence, followed by any applicable approved forms and tables (including the Inspection Tracking System Report). These elements make up the inspection report, which must be filed at the completion of every inspection. All citations and violation documents, investigation reports, surveys or any other documentation resulting from an action by an AR, including inspection reports, will be transmitted to the recording/clerical staff under cover of the MSHA Form 2000-22.